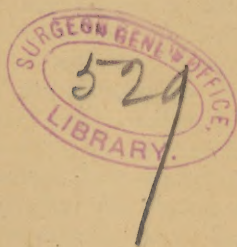


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EVACUATION OF THE TYMPANUM.

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EARLY in 1891 I suffered from an abscess of the tympanum in connection with an attack of influenza, attended by sore-throat and cold in the head. While using an atomizer with Dobell's solution I felt a stream of water pass through the Eustachian tubes into the tympanic cavity, followed by a sensation of churning, as if air and mucous fluid were being intermixed. At first there was not much pain, but a feeling of uncomfortable fulness soon followed. My first thought was to evacuate the tympanic cavity, but I could not do it. All authors recommended the Valsalva or Politzer plan of treatment, *i. e.*, inflation of the middle-ear cavity. I followed faithfully the directions, but with no result. Pain increased, and became at times very severe. The inflation of the cavity at times became so painful that I had to give it up, and I felt that it was wrong treatment. An abscess formed, and, after some weeks, it burst and gave me relief. I remained five days off duty after this, and then resumed practice.

Exactly four weeks from this date I was seized with a sudden, severe, and persistent pain behind the left ear and over the mastoid cells. This attack



occurred in my office while attending to a patient. A few hours later I had the Wilde incision made over the mastoid cells down to the bone, and without any effect. Next morning I felt a steady pain over the left temple, behind the left eye, and at the angle of the jaw, in addition to that at the seat of disease; the only relief I got was from leeching, applying half a dozen leeches once or twice a day. The stiffness of the neck was slightly relieved by $2\frac{1}{2}$ grains of quinin, $2\frac{1}{2}$ grains of caffein, and 5 grains of antipyrin taken two or three times a day. Sleep was got by using from $\frac{1}{4}$ to $\frac{1}{2}$ grain of morphin at bedtime, and hot applications in the form of hot water in a rubber bottle were acceptable. The disease continued for about two weeks, when I consulted an aurist, who diagnosticated the case as "mastoid abscess" that might require an operation. Another week passed, and my sufferings became almost unbearable, when an operation was performed to give vent to the pus. It was successful, the chisel was used, and in three weeks the wound healed, my hearing returned, and I was cured. The specialist who operated made a second visit, and I was then feeling well enough to discuss the case with him. I asked was there no way of emptying the middle ear instead of inflating it, adding at the same time that I felt that if I could have performed evacuation instead of inflation I did not think I would have an abscess, and remarked that during acute congestion in the early stage of the trouble inflation was wrong as it was so painful, and seemed to me to over-distend a cavity already too much distended. My feeling, I stated, called for evacuation to relieve the

tension. My esteemed and kind friend answered that he knew of no treatment that would accomplish "evacuation of the tympanic cavity," and indorsed and recommended the Valsalva and Politzer plan of inflation.

There the matter lay for three years, and the idea never again occurred to me until about one year ago, when I had a severe pain in the right ear after a twenty-five-mile drive (without my fur cap) on a windy and blustering day, and at the same time I was again suffering from influenza, with sore-throat and a "stuffed" head. The Eustachian tubes were difficult to open, and the air-bag caused me great pain, so much so that I gave it up, as the pain was aggravated by it. I was in great distress, and feared a repetition of my old trouble in the other ear. Inflation was out of the question on account of the pain it caused. The old thought of emptying the tympanic cavity recurred to me and remained uppermost in my mind, but I did not know how to accomplish it.

At last it struck me to reverse the process in working the Politzer air-bag, viz.: Collapse the bulb by squeezing it tightly, applying the nozzle, as in the Politzer plan, to one nostril, closing the other tightly, shutting the mouth and let go the bulb. I felt a slight feeling of collapse at the mouths of the Eustachian tubes, a new sensation, but no relief from pain. I was encouraged to proceed.

I thought of using the Eustachian catheter, applying it to an air-pump, and thereby get a vacuum; I was afraid I might injure the delicate ear-structures, and desisted.

While practising the old plan of drawing mucus from the back of the nose into the back of the mouth by short inspiratory jerks, I suddenly and accidentally pinched tight the nostrils and felt distinctly a collapse of the mouths of the Eustachian tubes. I said "Eureka!" and kept up this practice while I could detect distinctly a feeling of collapse of the Eustachian tubes and tympanic cavity. I kept up evacuation of the tympanum about half an hour, and found the pain almost gone, enabling me to attend to my patients in comfort. The following night I had good rest and sleep; for ten days I had a severe attack of catarrh of the Eustachian tubes and tympanic cavity, with a daily discharge of bloody mucus from the right nostril. I practised daily two or three times evacuation of the middle ear without discomfort.

Of course, the tubes must be inflated before one can perform evacuation of the cavity. I could only hear the watch an inch from the ear at the beginning of the attack, and after about ten days I could hear it from one to two feet away.

During acute congestion, the stage of threatened abscess, when inflation of the tubes and cavity is attended with great pain, one should discontinue it and use evacuation, which is not painful. A vacuum is thus produced that allows the over-distended vessels to empty themselves and thus restore to a great extent the equilibrium of the circulation. It assists in draining the middle-ear cavity after the abscess has burst or been opened. In association with inflammation it will be useful in the treatment of nearly all middle-ear troubles; I have no doubt it will

abort threatened abscess if used properly, as I feel it did in my own case.

A strong Politzer air-bag can be utilized for evacuation of the tympanum by reversing the process used in inflation. Inflation is practised during expiration, evacuation during inspiration. Inflating the tympanic cavity is performed in the first half of treatment, evacuation in the second half. Evacuation is the converse or complement of inflation ; they work in harmony, and do not antagonize each other. In some cases inflation is used with benefit, and in others evacuation with equally happy results. In many cases one may combine the two. Evacuation is especially indicated in early stages of acute congestion attended with great pain and when there is over-distention from fluid passing through the Eustachian tubes into the middle-ear cavity. In such cases evacuation will often abort an abscess if done early and thoroughly. When the tubes are closed it will be necessary in all cases to open them up by inflation either by the Valsalva or the Politzer plan of treatment. No air-bag is needed, as a rule, but when required it should be made of strong rubber, or it will not produce a vacuum.

Without an air-bag my directions are as follows, viz. : close tightly the nostrils and mouth and fill the lungs with air, and as it does not come from without it comes from the back of the mouth, the throat, Eustachian tubes, and tympanic cavity. Some patients do not get the idea, and I ask them to try the Valsalva inflation, and draw their attention to the fact that in inflation the air is forced against the thumb and finger and in evacuation the process is

reversed, drawing the air from the thumb and finger ; by this expedient most patients succeed. The drum-membrane can be felt to bulge inward, and a collapse of the tubes and cavity is produced. In many cases before hearing is regained inflation of the tubes and cavity has to be performed. The air-bag produces a vacuum, but one has to spend a good deal of time in showing how to work it, and the simple plan is the best.

In drawing attention to the evacuation-plan of treatment, allow me to say that I was seeking relief from severe pain, and the old adage was again illustrated that "Necessity is the mother of invention." If others are relieved as I was, I shall feel amply compensated for bringing this matter to the notice of the profession. I feel that an abscess was aborted by the timely evacuation of the tympanic cavity. In suitable cases I find patients much benefited, pain relieved, and in no case is it exaggerated as in the inflation-treatment. All medical men who have discussed it with me are favorably impressed, and all say it is common sense to evacuate an abscess or relieve tension when one is threatened or existing. It is nature's plan of treatment : open the abscess, remove tension, cause a vacuum, restore the impeded circulation, and get the parts back to a healthy condition.

I am under a deep obligation to Dr. McCallum, of London, for assistance given me.

